Claims:

1. A system for feeding and counting discrete objects, comprising:

a) a vibration system which vibrates in a substantially horizontally plane in a rotational direction;

b) a mounting assembly rigidly coupled to said vibration system;

c) at least one cassette adapted to be removably rigidly coupled to said mounting assembly, each said cassette having a reservoir portion which stores the discrete objects, a substantially planar tray portion in which a portion of the discrete objects travel in said rotational direction when said cassette is vibrated by said vibration system, and an exit through which the discrete objects can be exited; and

d) an object counting system which counts the discrete objects exiting said exit.

2. A system according to claim 1, wherein:

said mounting assembly includes an activatable electromagnet, and each said cassette includes a metal element which is coupled to said electromagnet when said electromagnet is activated.

3. A system according to claim 2, wherein:

said electromagnet has a cross-sectional shape, and a bottom portion of each said cassette includes a recess substantially having said cross-sectional shape.

4. A system according to claim 2, wherein;

a portion of each said cassette mates with a portion of said electromagnet.

5. A system according to claim 2, wherein:

said mounting assembly includes means for removing each said cassette from said electromagnet when said electromagnet is not activated.

6. A system according to claim 1, wherein:

said mounting assembly provides a mechanical coupling to each said cassette.

7. A system according to claim 1, wherein:

each said cassette includes a guide which feeds the discrete objects single file to said exit.

8. A system according to claim 1, wherein:

each said cassette includes a gate movable between a closed position relative to said exit and an open position relative to said exit.

9. A system according to claim 8, further comprising:

d) a solenoid having a shaft provided with a magnet,

wherein said gate is comprised of metal and activation of said solenoid causes said magnet to deflect said gate into said open position relative to said exit.

10. A system according to claim 1, wherein:

said at least one cassette is a plurality of cassettes, each of said cassettes having a tray portion of a different height from the others.

11. A system according to claim 1, wherein:

each said cassette includes an alignment means for aligning said exit relative to said object counting system.

12. A system according to claim 1, further comprising:

e) a funnel adapted to be coupled above said object counting system.

13. A system according to claim 1, further comprising:

e) an open bowl adapted to be removably rigidly coupled to said mounting assembly.

14. A system according to claim 1, wherein:

said at least one cassette includes a plurality of exits from which the discrete objects exit.

15. A system according to claim 14, wherein:

said at least one cassette includes at least two vertically adjacent tray portions, each of said at least two tray portions including a respective exit at which the discrete objects exit said cassette.

16. A system for feeding and counting discrete objects, comprising:

a) a vibration system;

b) a mounting assembly including an electromagnet rigidly coupled to said vibration system;

c) at least one discrete object container including a metal element adapted to be removably rigidly coupled to said electromagnet, each said discrete object container having an reservoir portion which stores a plurality of the discrete objects, an area in which a portion of said plurality of discrete objects travel when each said discrete object container is vibrated by said vibration system, and an exit through which the discrete objects can be fed; and

d) an object counting system which counts the discrete objects exiting said exit when said discrete object container is coupled to said mounting assembly.

17. A system according to claim 16, wherein:

said discrete object container is a cassette having a substantially planar covered tray portion and a reservoir portion.

18. A system according to claim 17, wherein:

said at least one cassette is a plurality of cassettes, wherein said tray portion of said cassettes has a different height from the others.

19. A system according to claim 17, wherein:

each said cassette includes a plurality of exits from which the discrete objects can exit.

20. A system according to claim 19, wherein:

each said cassette includes at least two vertically adjacent tray portions, each of said at least two tray portions including a respective exit at which the discrete objects exit said cassette.

21. A system according to claim 20, wherein:

said object counting system includes two arrays of substantially orthogonal optical sensors.

22. A system according to claim 16, wherein:

said object counting system includes two arrays of substantially orthogonal optical sensors.

23. A system according to claim 16, wherein:

said at least one discrete object container is a plurality of cassettes, said area of each of said cassettes having a different height from the others.

24. A system for feeding and counting discrete objects, comprising:

a) a vibration system;

b) a cassette removably coupled to said vibration system, said cassette having an enclosed reservoir adapted to store a plurality of discrete objects, an area in which the discrete objects travel when said cassette is vibrated by the vibration system, an exit hole, and a guide which guides the discrete objects about said area toward said exit hole; and

c) an object counting system which counts the discrete objects exiting said exit of said cassette.

25. A system according to claim 24, wherein:

said at least one cassette is a plurality of cassettes, wherein said tray portion of said cassettes has a different height from the others.

26. A system according to claim 24, further comprising:

d) a magnetic element,

wherein said cassette includes a gate movable between a closed position relative to said exit hole and an open position relative to said exit hole, wherein when said magnetic element is activated said magnetic element moves said gate to said open position.

27. A system for feeding and counting discrete objects, comprising:

a) a vibration system;

b) a cassette coupled to said vibration system, said cassette having an enclosed reservoir adapted to store a plurality of the discrete objects, an area in which the discrete objects travel when said cassette is vibrated, a lowermost portion of said reservoir having a lateral passage into said area, said area having an exit hole with the said discrete objects moving over said area to said exit hole; and

c) an object counting system which counts the discrete objects exiting said exit of said cassette.

28. A system according to claim 27, further comprising:

a plurality of cassettes.

29. A system according to claim 28, wherein:

at least one cassette includes a plurality of exit holes.